

## **Pushing through the boundaries- A tale of implementing e-learning in a developing country**

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### **Introduction**

The Centre for Open and Lifelong Learning (COLL), Polytechnic of Namibia (PoN) is responsible for coordinating and administering the institute's distance education programmes. Of recent, COLL has taken on the responsibility to design, develop and deliver e-learning courses for the benefit of distance education students. This is in response to the PoN's want of producing students that can perform within a knowledge based economy and as steered by globalisation pressures. Such a task is daunting especially seeing as Namibia is considered a 'developing' nation and constrained by a number of issues such as poor bandwidth, restricted computer and network access and limited human resources with technical 'know-how'. However, COLL is forging ahead to offer e-learning as a mode of study and in doing so improving strategies for supporting teaching and learning at a distance.

COLL is piloting two e-learning courses this year, and is in the process of developing another eight for implementation in 2011. The piloting involves planning and development of e-learning courses with PoN lecturers (the e-learning course developers) through to implementation with students and finally conducting overall evaluations. This process is moving ahead even though there are a number of glaring challenges to the implementation of such a technically enhanced mode of study. In order to do so we have followed Ascough's (2002) model and have carried out empirical research to feed into the development of e-learning. This paper will briefly discuss the process of developing e-learning courses for Namibia within the four stages proposed by Ascough (2002) namely, undertaking analyses; setting goals and objectives; selecting teaching strategies and administering evaluations. I discuss the challenges faced and highlight some strategies for implementing e-learning under constrained circumstances.

### **The Context Experienced in Namibia**

Namibia is a large country with a sparsely and widely dispersed population. It's unfortunate that it is also the number one country with the biggest income disparity in the world, with the top 20% of earners earning 70% of the total income. More specifically, 4.5% of the households consume 52% of the total GDP per capita while the poorest 33,3% of the households consume only 4.2% of the total GDP per capita. (Namibian Economist Newspaper [allafrica.com/stories/201006280091.html](http://allafrica.com/stories/201006280091.html)). A large majority of the population is unemployed, with the rate currently sitting at around 50% (The Southern Times Newspaper, [www.southerntimesafrica.com/article.php?title=Unemployment%3A\\_Namibia's\\_headache\\_20\\_years\\_on\\_&id=3849](http://www.southerntimesafrica.com/article.php?title=Unemployment%3A_Namibia's_headache_20_years_on_&id=3849)). This disparity has affect on who has access to, the offering of and quality of education in Namibia. Namibia also has a number of challenges when it comes to ICT. For example, access to communication lines is quite good however as Namibia is not directly on the internet backbone, bandwidth is quite poor. The human resource pool with specialised ICT and education skills, qualifications and experience is also very small. Further, because of the lack of funding for schools, a large proportion of the student population often begin their PoN studies

with no or little experience in computers and internet and have to be given a bridging course in basic computer use. Further, PoN staff is often novice and basic users of computers and have rudimentary understanding of the capabilities of ICT. All of these challenges add to the difficulty of implementing e-learning within the PoN.

The PoN is a dual mode institution offering full-time, part-time, distance education (DE) and now e-learning modes of study. Students are able to register on any mode of study as long as the course is offered in that mode and place is available. As full-time and part-time classes fill quickly, many students register as distance learners. However, DE does not suit all students. This is due to DE being mainly delivered via print-based materials and with face to face support limited to a small number of weekend tutorials and one vacation school. This is where the PoN sees the strength of e-learning. E-learning is seen as an effective strategy to decrease challenges posed by distances specifically that of being distant from the institute, its resources (human and physical) and distances experienced between students and tutors.

At the PoN, e-learning is defined as...

the use of Information Communication and Technology (ICT) for learning and teaching. This is an umbrella term which encompasses many different modes of delivery and tools. For the Polytechnic, E-learning refers to the use of a Virtual Learning Environment (VLE) to deliver education in combination with face-to-face classes or completely online. Other tools like PowerPoint, Wikis, Blogs, Podcasts, Simulations, Digital portfolios, Video conferencing and other emerging tools will be incorporated and offered together with the VLE.

(Source: PoN, 2009)

E-learning, as a fully online and tutored offering, was introduced by COLL to provide DE students with more regular support through increased student to student and student to tutor interaction. This we believe would be more conducive as studies have shown that the more the interaction, the more opportunity for deep learning (Ascough, 2002; Puzziferro, 2009; Anderson, 2008). It is also seen as a means of catering to varying learning styles and providing access to a greater variety of resources. In short, we believe ICT has the potential to decrease the feeling of isolation and increase learning opportunities through the computer internet medium and specifically through socialising tools that mediate interaction.

COLL implements e-learning through a VLE called KEWL. KEWL, developed by the University of the Western Cape (UWC), stands for *Knowledge Environment for Web Based Learning*. We are able to use KEWL on behalf of the African Virtual Open Initiatives and Resources project, based on the creative commons attribution-share alike 2.5 license. KEWL provides a 'one-stop-shop' or virtual classroom situation and has functions similar to other VLEs such as Moodle, WEBCT and Blackboard.

### **Planning, Developing and Implementing e-learning at COLL**

Once the decision was made to implement e-learning as a fourth mode of study, an e-learning strategy was planned so that a number of e-learning courses could be quickly developed and piloted in the second semester (July to October 2010). To guide this strategy we consulted Ascough's (2002) model of implementation. Ascough (2002, pg. 20) states that there are four essential steps of online course design:

1. To undertake analysis
2. To set goals and objectives
3. Select teaching strategies
4. Administer evaluation

Below is a brief discussion regarding the above steps and the decisions made by COLL to get e-learning off the ground.

### *Undertaking analysis*

A number of small scale research studies have guided us in analysing the situation at the PoN. We conducted a survey with DE students during the first semester vacation school regarding their access to computers and internet and the want of e-learning. The results showed that 67% of the surveyed sample had good access to a networked computer solely from home and/or through work. Another 23% said they had good access solely via the regional centres or main Polytechnic campus. In terms of the want of e-learning, 72% said they would like to study via e-learning, 13% did not know if they would and 11% did not wish to study via e-learning (see diagram 1).

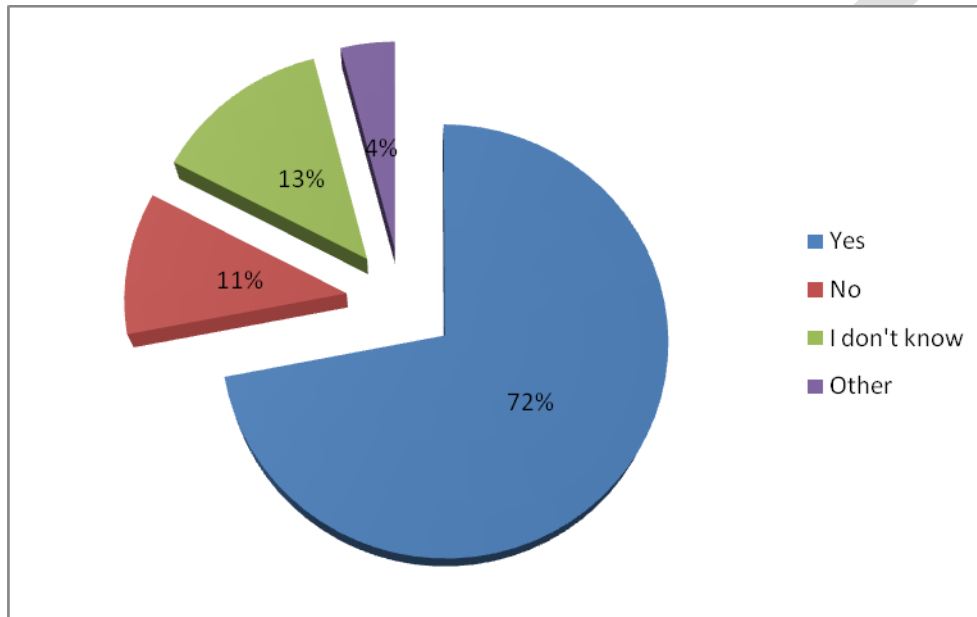


Diagram 1: The percentage of DE students who would like to study via e-learning

These results indicated that a large number of PoN DE students would like to study via e-learning and have access to a networked computer at home, work or at the regional centres. It was the imperative information that pushed us forward with developing e-learning.

Another small scale study looked at the perspectives of students to the possibilities of studying via e-learning. This study showed that students were positive about idea of e-learning although they were not sure as to what e-learning entailed. The way they saw it e-learning offers the same benefits they get from studying via DE, that is, being able to study anywhere, anytime, in having flexible learning schedules, reduced transport costs by not attending classes and in being able to study from home. The challenges arising from this study related to the concept of 'what does e-learning mean?' Students were unsure what 'happens' when you study via e-learning. Many of them equated e-learning with studying alone, on a static website and without a person 'behind' the computer mediated course. They were concerned about the lack of a face-to-face aspect. They also highlighted the want of being prepared or being 'trained' to use computers and/or in the use of the tools needed to study in this mode and in not having too much 'extra' work if they were to study this way. A summary of the themes of this study is found in Diagram 2 below.

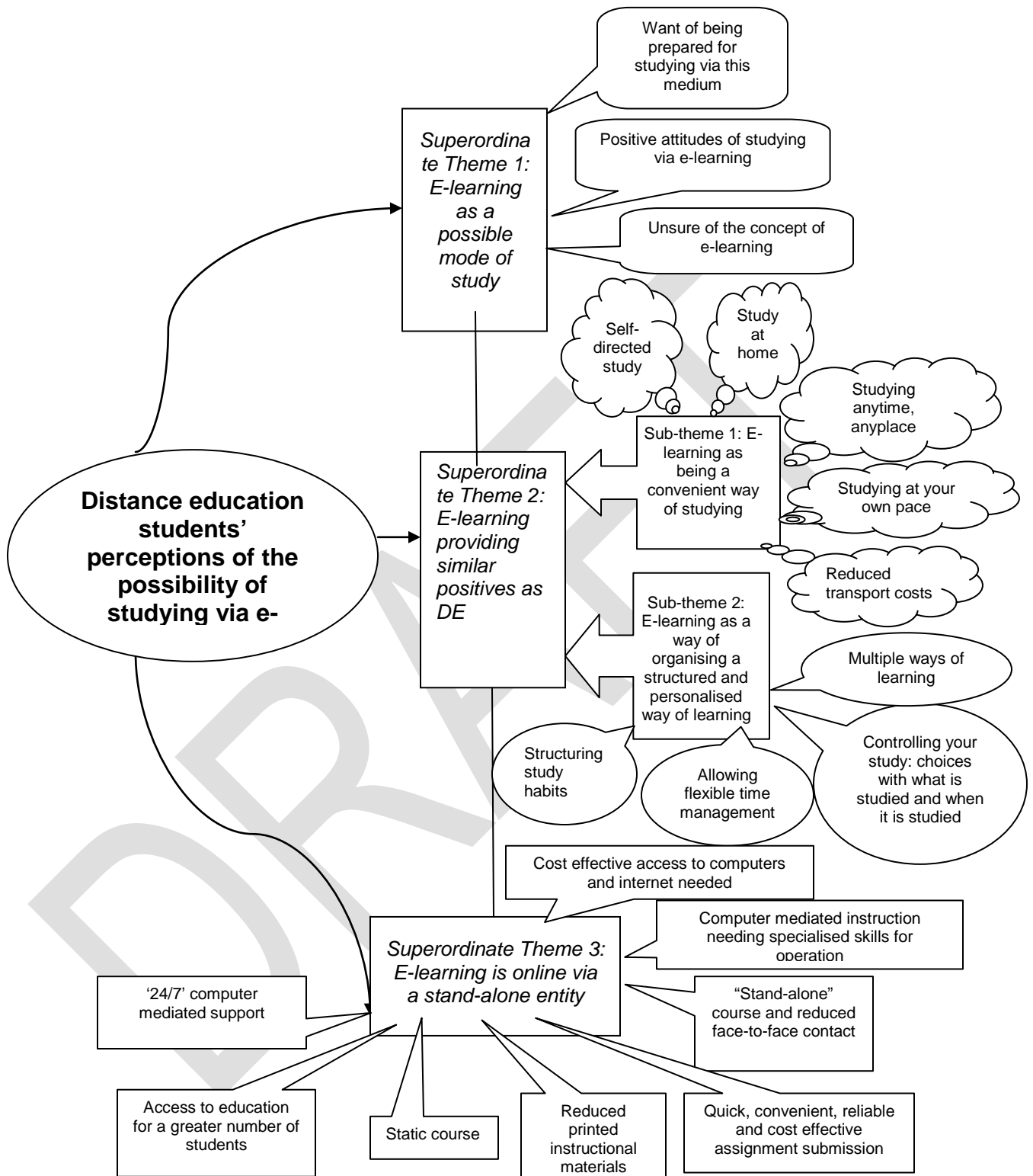


Diagram 2: Themes and concepts related to DE students' perceptions of the possibility of studying via e-learning

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The ideas that came from this study showed that COLL had to do more marketing about e-learning and especially to make known both the advantages and limitations of studying in such a way so that students could make an informed choice at registration. Unfortunately, due to the short implementation time, we did not do any marketing with students. This need of marketing was especially clear when only small numbers of students registered for e-learning during the second semester registration period. We have therefore planned to hold a number of presentations, one during the upcoming vacation school and another organised through the student council during second semester. We will also be producing a CD with a short tutorial about e-learning that will be sent to all DE students. Ideally, the students who will eventually register for e-learning will be those who want support and guidance with their studies but who cannot attend face to face classes due to varying constraints. They should be prepared to put in 3-5 hours study each week and have good access to a networked computer. They should also have computer experience and skills, and as such only those who have passed a PoN basic computer user skills course will be eligible for e-learning.

A second small study was conducted on the professional development needs of the e-learning course developers (ELCD). This study aimed to gather information about the process of developing e-learning courses as viewed by the ELCD themselves, in particular, what support they wanted when developing e-learning courses. The main theme resulting from this study was that the ELCD saw the process as a learning experience. Hence, they wanted guidance and support in a number of different areas but mainly in the technical aspects of developing e-learning courses. They also appreciated the strategy we took to guide them through the course development process, namely, learning by participating in an e-learning course development course as students first, secondly as tutors, and thirdly as course developers. In this way they had a three way learning experience- being a student, being a tutor and lastly as e-learning course developers learning the theory and practice of e-learning course development. A diagrammatic view of the main themes arising from this study are shown in diagram 3 below.

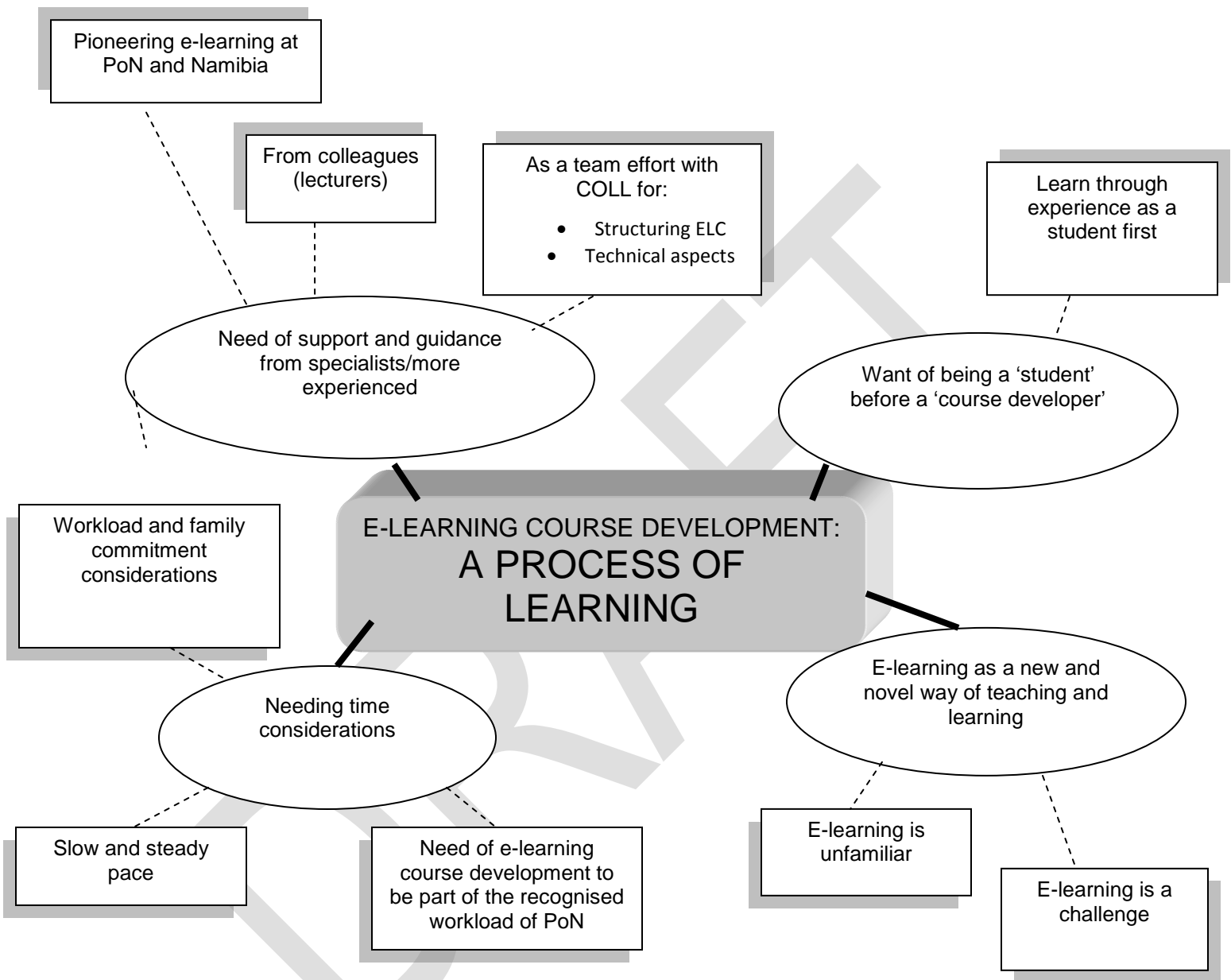


Diagram 3: Themes and concepts related to PoN e-learning course developers view of the process of developing e-learning courses

This study has helped us with knowing what support and professional development the ELCDs want, mainly to continue with the strategy of teaching course development through an e-learning course and offering support with technical and structural aspects of e-learning courses. However, it also showed the course developers saw the development process as being mainly a task they do on their own or just with COLL rather than a team approach with many different specialists and lecturers, possibly only looking for support and guidance when they are required

to do so by COLL. This may cause problems as COLL requires the e-learning course to be content edited, undergo instructional design, be language edited and lastly quality assured. These tasks are done in a linear fashion by contracted specialists. The e-learning course developers also have to complete the development within a tight time schedule and all processes and the e-learning course must be finalised within a space of approximately three months. As the e-learning course is not being developed from scratch but rather focussing more on the support of students (see the following section for more detail on this aspect) we feel the time period is adequate, however it can place pressure on lecturers who are new to the development process and who already have a full workload. We are therefore proposing that the PoN integrates e-learning course development into the lecturers' official workload. Such an idea is also supported by literature. (see Rockwell, 1999; LeBaron & McFaddon, 2007, Feist, 2003)

In terms of those lecturers who are contracted as ELCDs, the main criteria at his stage is that they must be willing and motivated to do so and have some computer skills. They will be required to produce a draft of their e-learning course as the first task of the e-learning course developer's course and if this draft is considered satisfactory, they will then be formally contracted to further develop the e-learning course. At this stage remuneration is an additional motivator as the ELCD will be paid for their finalised courses. We would like to say that the courses are chosen for their suitability for an online environment, however, as the choice of course very much depends on who is the ELCD, and this too is a limited number, we are considering all courses. The only exception are those with mathematical symbols due to the difficulty of transferring these symbols online using KEWL. Courses must also be second semester level onwards as many students will not have completed the basic computer user skills course during the first semester. In the future we hope to attract more lecturers as ELCDs and be more discerning on what courses are being offered, particularly encouraging those courses where interactivity and dialogue is a necessity.

### ***Setting goals and objectives***

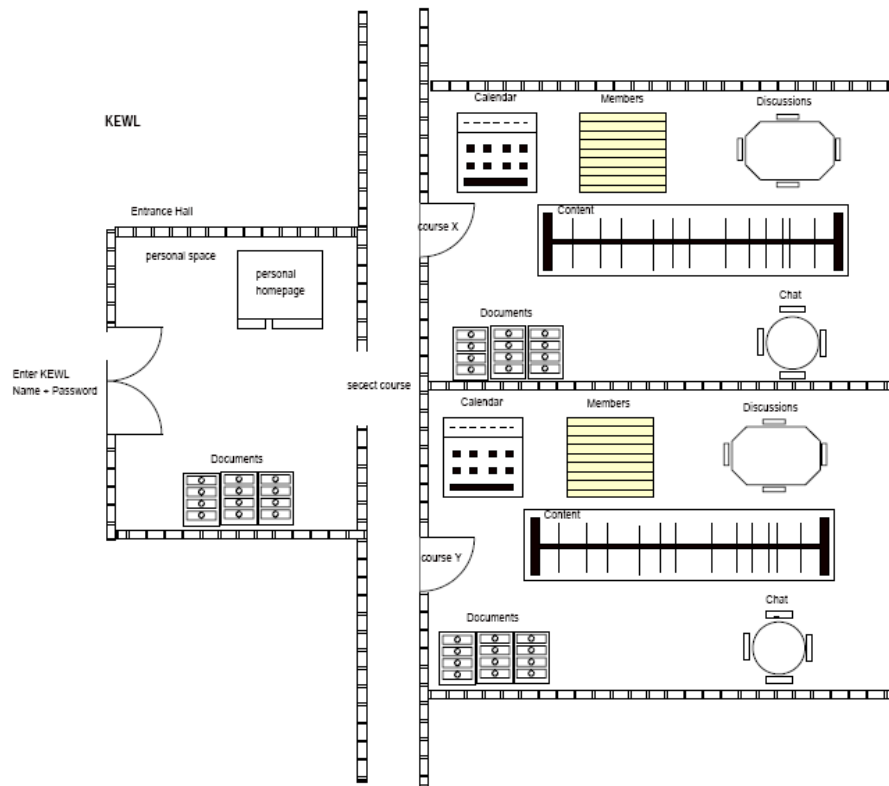
In the PoN, the course goals and objectives are the same for full time, part time, DE and e-learning modes, therefore there is no need to set goals and objectives separate to these. However, it is in how the goals and aims are met that is different in e-learning and this will be discussed in the next section focussing on selecting teaching strategies.

### ***Selecting teaching strategies***

The strategy COLL has taken in its e-learning is to not re-invent content for each of the e-learning courses as we have good print-based material already in place. Instead, the focus of our e-learning courses is on the teaching and learning strategies to mediate the content. In this case the e-learning course has an element of being web mounted (Ellis & Phelps, 2000) however the students will be guided through the content and key concepts on a week by week basis. As such it also has elements of being web enhanced (Ellis & Phelps, 2000).

As was mentioned above, the belief is that the more the interaction, the more the deeper learning. COLL therefore decided to revolve e-learning around interaction between the students and tutor, students with students and students with content. The idea was to encourage a community of practice, specifically a learning community. The e-learning course provides a virtual classroom setting and various weekly tasks are developed to facilitate interaction. A pictorial representation of this course can be seen in diagram 4 below.





Source: Dr E Elsener, 2010

We decided to use mainly discussion forums and chats on specific topics to stimulate dialogue. However, these interactions are limited to a maximum of two chats and five discussion forums per semester so as not to overload the student. The restricted number was also governed by the limited bandwidth and high costs of the internet that students may experience if studying from home. The e-learning course developers are given freedom to develop other teaching strategies as they see fit, however they are guided not to use media that occupies large bandwidth. As a result, the two e-learning courses are quite simple in their structure. This is also important as the costs, time and energy needed to produce complex media is not feasible at this stage and especially as we are unsure of such media would add value to the learning process. As a way to expand our teaching and learning strategies, next year we have planned a short course focussing on teleteaching. It will be piloted in March 2011 with the hope that teleteaching will be incorporated into e-learning courses as of second semester 2011.

#### **Administrating evaluation strategies**

The e-learning courses are not yet fully implemented as the semester finishes only in October 2010. However, evaluation of the course is planned through the use of questionnaires for students. The evaluation will focus on the effectiveness of the e-learning course, specifically the ease of use of KEWL, the support of the tutor and the process of learning. Results are expected in November this year.

The e-learning course developer's course will also be evaluated using a questionnaire. It will ask questions to establish a user profile, ascertain user behaviour and to assess different aspects of the course. Results will be used to improve the course specifically, its structure, content, presentation and implementation aspects. The results of this evaluation should be available in November this year.

## Conclusion and way forward

This paper set out to describe how the PoN is forging ahead with implementing e-learning even though we are constrained in a number of areas such as limited ICT capabilities, limited specialised human resources to develop and implement e-learning and an uninformed student body unaware of the advantages and limitations of studying via e-learning. We have planned and developed a small number of e-learning courses that are currently being implemented and we are implementing an e-learning course developer's course to teach lecturers how to develop e-learning courses. These strategies are in the piloting stage and evaluations are expected by November this year. The decision to implement e-learning was made very quickly and the planning, development and implementation took place within three months. We literally put the 'cart in front of the horse' and in the process have made many discoveries on what is possible and what is not. The main considerations we offer to other developing countries wishing to implement e-learning but unsure of its possibility as a mode of study given the many constraints these kinds of countries face, are: the focus of e-learning should be on the pedagogy and not the technology. The technology provides the medium only and should be kept as simple as possible in the early stages as people need to be comfortable with it. Other advice is that often students are unaware of the advantages and limitations of e-learning. As a result wide spread marketing is needed to get them on board. Further, those who develop courses are often novices and they need a lot of guidance and support, especially with the use of technology to develop and to teach. The advantages and limitations of e-learning should also be made clear with the ELCDs. ELCDs also need time for developing and as such the task should be officially recognised in the workload. They also appreciate the opportunity to 'learn by doing' or with being a student in a e-learning course developer's course before they develop their courses, as such a learning process allows them to take on board all they need to know and do to get a quality e-learning course together. Lastly, the first stage of implementing e-learning should be seen as a pilot so that mistakes can be made and lessons learnt, all in the name of improvement for future e-learning courses.

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